

4870

LOUDSPEAKER SYSTEM FAMILY



FEATURES:

Concert-proven componentry and design configurations

Rugged fiberglass-reinforced construction for touring sound reinforcement applications

30 degree wedge frustum shape for coherent wide angle coverage. Matches JBL 4845

14 certified aircraft-type hanging points

60 and 90 degree horizontal coverage versions in two-way and three-way configurations

The 4870 family of modular high-power loudspeaker systems provides quality reinforcement and reproduction for a broad range of applications.

Two-way models (4870, 4872) are designed for external bi-amplification and consist of dual 15 inch direct radiator loudspeakers and a 4 inch diaphragm

compression driver mounted to a Flat-Front Bi-Radial™ horn in a vented enclosure. Three-way models (4871, 4873) employ external tri-amplification and incorporate dual Bi-Radial™ Constant-Coverage VHF transducers in addition to the LF and HF devices. Both types are available in either 90 degree (4870, 4871) or 60 degree (4872, 4873) horizontal coverage versions.

Cabinetry is crafted from void-free birch plywood, coated with virtually indestructible fiberglass reinforced plastic, fitted with handles and 14 steel reinforced aircraft style pan fittings for hanging. The enclosure is tapered from front to back, forming a 30 degree wedge frustum to enable tight cluster grouping for coherent wide angle coverage. The 4870 family is identical in shape, size and hanging points to

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4870 FAMILY

the JBL 4845 VLF loudspeaker system.

The ported enclosure, tuned to 40 Hz, mounts two JBL 2225H loudspeakers. Large ducts allow complete freedom from vent compression over the entire dynamic operating range of the systems. JBL's exclusive Bi-Radial™ HF and VHF horns assure smooth and uniform coverage to the highest audible

SPECIFICATIONS:

Models 4870/4872

Components:	2-JBL 2225H low frequency transducers 1-JBL 2380 Flat-Front Bi-Radial™ horn (4870) 1-JBL 2385 Flat-Front Bi-Radial™ horn (4872) 1-JBL 2445J compression driver
Frequency range (-10 dB):	35 Hz to 20 kHz
Frequency response (± 3 dB):	45 Hz to 16 kHz
Pressure sensitivity:	LF: 100 dB, 1 w, 1 m HF: 112 dB, 1 w, 1 m (4870) HF: 114 dB, 1 w, 1 m (4872)
Power Capacity ¹ :	LF: 800 watts continuous program HF: 150 watts continuous program
Coverage angles (-6 dB points, nom.):	90 degrees horizontal (4870) 60 degrees horizontal (4872) 40 degrees vertical
Maximum SPL (1 m, continuous pgm.):	132 dB (4870) 134 dB (4872)
Nominal impedance:	LF: 4 ohms HF: 16 ohms

Models 4871/4873

Components:	2-JBL 2225H low frequency transducers 1-JBL 2380 Flat-Front Bi-Radial™ horn (4871) 1-JBL 2385 Flat-Front Bi-Radial™ horn (4873) 1-JBL 2445J compression driver 2-JBL 2404H Constant-Coverage Bi-Radial™ high frequency transducers
Frequency range (-10 dB):	35 Hz to 21.5 kHz
Frequency response (± 3 dB):	45 Hz to 19 kHz
Pressure sensitivity:	LF: 100 dB, 1 w, 1 m HF: 112 dB, 1 w, 1 m (4871) HF: 114 dB, 1 w, 1 m (4873) VHF: 108 dB, 1 w, 1 m
Power capacity ¹ :	LF: 800 watts continuous program HF: 150 watts continuous program VHF: 80 watts continuous program
Coverage angles (-6 dB points, nom.):	90 degrees horizontal (4871) 60 degrees horizontal (4873) 40 degrees vertical
Maximum SPL (1 m, continuous pgm.):	132 dB (4871) 134 dB (4873)
Nominal impedance:	LF: 4 ohms HF: 16 ohms VHF: 16 ohms

All

Connectors:	ITT Cannon EP-8 type, one each male and female
Dimensions:	126 cm (49½ in) H 75 cm (29½ in) W 50 cm (18¾ in) D
Weights:	4870, 4872: 97 kg (214 lbs) 4871, 4873: 102 kg (224 lbs)
Finish:	Dark gray impregnated fiberglass-reinforced plastic, black nylon protective grill

¹ Continuous program power is defined as 3 dB greater than continuous sine wave power and is a conservative expression of the transducer's ability to handle typical speech and music program material.

frequencies.

Systems are energized through one EP-8 input connector. Two connectors (one each male and female) are installed to enable loop-through wiring for use with 4845 systems. An accessory dolly, model 4870DL, is available to facilitate handling and cartage. The 4870DL also fits the 4845 system.

ARCHITECTURAL SPECIFICATIONS:

4870/4872

The loudspeaker system shall be of the two-way type, incorporating two 15-inch low frequency loudspeakers in a vented direct radiator enclosure, and a compression driver mounted to a constant coverage high frequency horn. The LF drivers shall be capable of 5mm peak linear displacement, and the cabinet shall incorporate a tuning frequency of 40 Hz with a total duct surface area of not less than 56 square inches.

4870

The system shall meet the following performance criteria: Frequency range: 35 Hz to 20 kHz. Pressure sensitivity: 100 dB/1w/1m (LF), 112 dB/1w/1m (HF). Power capacity: 400 watts continuous sine wave above 40 Hz (LF), 75 watts continuous sine wave above 800 Hz (HF). Horizontal coverage: 90 degrees between -6 dB points. Vertical coverage 40 degrees between -6 dB points.

4872

The system shall meet the following performance criteria: Frequency range: 35 Hz to 20 kHz. Pressure sensitivity: 100 dB/1w/1m (LF), 114 dB/1w/1m (HF). Power capacity: 400 watts continuous sine wave above 40 Hz (LF), 75 watts continuous sine wave above 800 Hz (HF). Horizontal coverage: 60 degrees between -6 dB points. Vertical coverage 40 degrees between -6 dB points.

4871/4873

The loudspeaker system shall be of the three-way type, incorporating two 15-inch low frequency loudspeakers in a vented direct radiator enclosure, a compression driver mounted to a constant coverage high frequency horn and two constant coverage VHF transducers. The LF drivers shall be capable of 5mm peak linear displacement, and the cabinet shall incorporate a tuning frequency of 40 Hz, with a total duct surface area of not less than 56 square inches.

4871

The system shall meet the following performance criteria: Frequency range: 35 Hz to 21.5 kHz. Pressure sensitivity: 100 dB/1w/1m (LF), 112 dB/1w/1m (HF), 108 dB/1w/1m (VHF). Power capacity: 400 watts continuous sine wave above 40 Hz (LF), 75 watts continuous sine wave above 800 Hz (HF), 40 watts continuous sine wave above 7 kHz (VHF). Horizontal coverage: 90 degrees between -6 dB points. Vertical coverage: 40 degrees between -6 dB points.

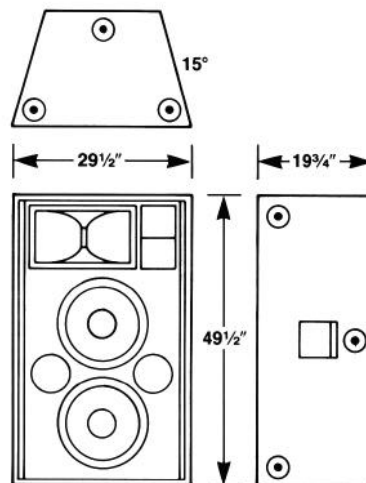
4873

The system shall meet the following performance criteria: Frequency range: 35 Hz to 21.5 kHz. Pressure sensitivity: 100 dB/1w/1m (LF), 114 dB/1w/1m (HF), 108 dB/1w/1m (VHF). Power capacity: 400 watts continuous sine wave above 40 Hz (LF), 75 watts continuous sine wave above 800 Hz (HF), 40 watts continuous sine wave above 7 kHz (VHF). Horizontal coverage: 60 degrees between -6 dB points. Vertical coverage: 40 degrees between -6 dB points.

All

The cabinet shall be constructed of void-free birch plywood, stiffened internally and coated with fiberglass reinforced plastic. All exposed corners shall be rounded for damage resistance. Aircraft-type hanging fixture attachment points shall be installed through the cabinet to internal steel reinforcement plates. Fourteen hanging points shall be provided. Each hanging point shall have a load rating of 2000 lbs. at 90 degrees to the fitting. Cabinet width shall taper front-to-back, forming a 30 degree wedge frustum.

The modular loudspeaker system shall be the JBL Concert Series model (select 4870/4871/4872/4873).



JBL continually engages in research related to product improvement. New materials, production methods, and design refinements are introduced into existing products without notice as a routine expression of that philosophy. For this reason, any current JBL product may differ in some respect from its published description but will always equal or exceed the original design specifications unless otherwise stated.

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PRODUCTS

Features

Concert-proven componentry and design configuration.

35 Hz to 20 kHz usable frequency range.

Ruggedized construction for touring sound reinforcement applications.

30 degree wedge frustum shape for coherent wide angle coverage. Matches JBL 4845.

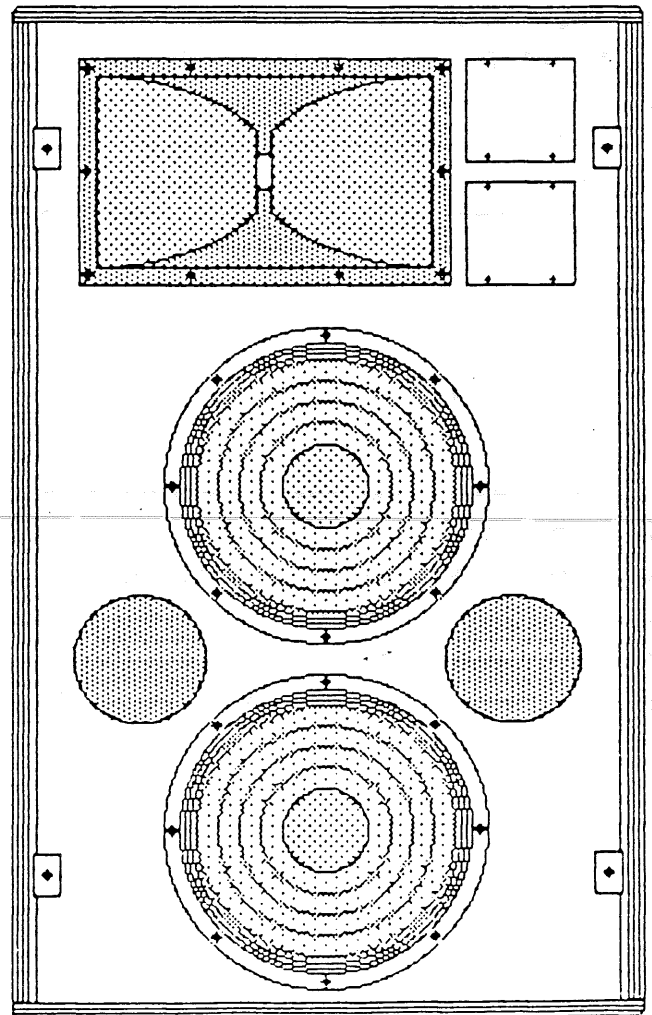
Fiberglass-reinforced finish for durability.

14 aircraft-type hanging points.

JBL Concert Series
4870

Description

The JBL Concert Series 4870 is a modular high-power loudspeaker system designed for a wide variety of sound reinforcement applications. It is a bi-amplified system consisting of dual fifteen-inch direct radiator loudspeakers and a 2-inch throat (4-inch diaphragm) compression driver mounted to a Bi-Radial™ constant coverage horn in a vented enclosure. Cabinetry is crafted from void-free birch plywood, coated with virtually indestructible fiberglass reinforced plastic, and fitted with handles and reinforced aircraft style pan fitting hanging hardware. The enclosure is tapered from front to back, forming a 30 degree wedge frustum to enable tight cluster grouping for coherent wide-angle coverage.



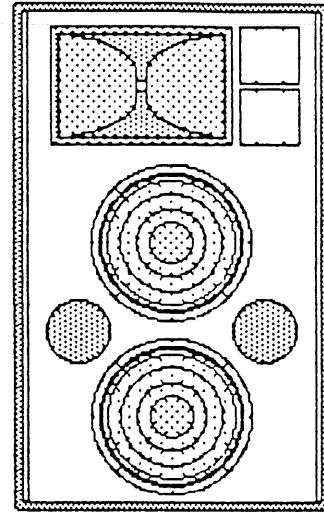
Low Frequencies

A ported enclosure, tuned to 40 Hz mounts two JBL 2225H loudspeakers. Large ducts allow complete freedom from vent compression over the entire dynamic operating range of the 4870. The large linear displacement, high efficiency and power capacity of the 2225 bass drivers assure low distortion and smooth, uniform power response.

High Frequencies

Frequencies above 800 Hz are reproduced by the JBL 2445J compression driver mounted on a JBL 2380 Bi-Radial™ horn. The 2445J provides usable response to the highest audible frequencies and robust power handling, due to a diaphragm of pure-grade titanium, distributed-stress compliance assembly and four-inch voice coil.

JBL's exclusive Bi-Radial™ horn assures uniform response within the nominal coverage angles to beyond 16kHz. Using one Bi-Radial™ horn/driver eliminates lobing and comb filter effects associated with multi-way HF horn systems, and minimizes the need for coverage overlapping in large installations.



Physical

The 4870 sides taper from front to back at an angle of fifteen degrees from rectangular convention. This allows several systems to be configured in tight clusters for wide angle coverage, and improves coupling at low frequencies. Fourteen system hanging points are included to facilitate cluster rigging and flying. The 4870 is identical in shape, size and rigging points to the JBL 4845 YLF loudspeaker system.

The 4870 includes mounting provision and wiring for the installation of two JBL 2404 ultra-high frequency transducers for those applications that require additional power above 10 kHz. Cover plates are standard.

The 4870 is energized through one EP-8 input connector. Two connectors are installed on each cabinet to enable loop-thru wiring for use with 4845 systems.

An accessory dolly, model 4870DL, is available to facilitate handling and cartage. The 4870DL also fits the 4845 system.

Model 4870

System Type	Modular, direct radiating LF, two-way, externally biamplified concert reinforcement loudspeaker system
Frequency Range (-10dB)	35 Hz to 20kHz
Frequency Response (± 3 dB)	45 Hz to 16kHz
Axial Pressure Sensitivity	LF: 100 dB/1w/1m HF: 112 dB/1w/1m
Power Capacity[1]	LF: 800 watts continuous program HF: 150 watts continuous program
Recommended Crossover	800 Hz, 12 dB per octave minimum
Coverage Angles [-6dB points, nominal]	90 degrees Horizontal 40 degrees Vertical
Nominal Efficiency	LF: 7.0% HF: 30%
Maximum SPL	132 dB [1m, continuous program]
Nominal Impedance	LF: 4 ohms HF: 16 ohms
Connectors	ITT Cannon EP-8 type, one each male and female
Dimensions	49-1/2" (126 cm) H 29-1/2" (75 cm.) W 19-3/4" (50 cm.) D
Weight	214 lbs (97 kg.)
Finish	Dark gray impregnated fiberglass-reinforced plastic, black nylon protective grill

[1] Continuous program power is defined as 3 dB greater than continuous sine wave power and is a conservative expression of the transducer's ability to handle typical speech and music program material.

Architect's and Engineer's Specifications

Model 4870

The loudspeaker system shall be of the two-way type, incorporating two 15-inch low frequency loudspeakers in a vented direct radiator enclosure, and a compression driver mounted to a 90 degree by 40 degree constant coverage high frequency horn. The system shall meet the following performance criteria: Frequency range: 35 Hz to 20kHz. Pressure sensitivity: 100 dB/1w/1m [LF], 112 dB/1w/1m [HF]. Power capacity: 400 watts continuous sine wave above 40 Hz [LF], 75 watts continuous sine wave above 800 Hz [HF]. Horizontal coverage: 90 degrees between -6 dB points. Vertical coverage 40 degrees between -6 dB points. The LF drivers shall be capable of 5mm peak linear displacement, and the cabinet shall incorporate a tuning frequency of 40 Hz, with a total duct surface area of not less than 56 square inches.

The cabinet shall be constructed of void-free birch plywood, stiffened internally and coated with fiberglass reinforced plastic. All exposed corners shall be rounded for damage resistance. Aircraft-type hanging fixture attachment points shall be installed through the cabinet to internal steel reinforcement plates. Fourteen hanging points shall be provided. Each hanging point shall have a load rating of 2000 lbs. at 90 degrees to the fitting. Cabinet width shall taper front-to-back, forming a 30 degree wedge frustum.

The modular loudspeaker system shall be the JBL Concert Series model 4870.